



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,908	07/30/2003	Keiko Tazaki	DAIN:743	6084
25944	7590	09/20/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			WANG, GEORGE Y	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,908	TAZAKI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	George Y. Wang	2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (U.S. Patent No. 5,680,188, hereafter "Yoshida").

3. As to claim 1, Yoshida discloses an optical element (fig. 19) comprising a liquid crystal layer (fig. 19, ref. 416) made of liquid crystalline material that is solidified to maintain a molecular orientation of the liquid crystal phase and a protective layer (fig. 19, ref. 421) formed on the liquid crystal layer having a hardness sufficient to prevent the LC layer from being deformed by externally exerted forces (col. 20, 3-19).

4. As per claim 3, Yoshida discloses an optical element as recited above where the protective layer is made from a material that comprises a resin and a monomer (col. 20, 5-11).

Art Unit: 2871

5. Regarding claims 4-5, Yoshida discloses an optical element as recited above where the LC material has a nematic and cholesteric regularity (col. 9, lines 52-58).
6. As to claim 6, Yoshida discloses an optical element as recited above further comprising an alignment substrate (fig. 19, ref. 411) that supports that LC layer and is disposed on the surface of the LC layer opposite to a surface of the protective layer.
7. As per claim 10, Yoshida discloses an optical element as recited above further comprising a color filter layer (fig. 19, ref. 417b) of a light absorption type disposed between the liquid crystal layer and the protective layer.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2871

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Nishida et al. (U.S. PG-Pub. No. 2004/0048950, hereafter "Nishida").

10. Regarding claim 2, Yoshida discloses an optical element as recited above, however, the reference fails to specifically disclose the protective layer having a modulus of elasticity of 0.6 or more as determined by the standards of the universal hardness test method.

Nishida discloses an optical element with a protection layer that has a sufficient hardness required to avoid adverse effects to color properties as well as other non-pollution properties (p. 1, [0008]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the protective layer having a modulus of elasticity of 0.6 or more as determined by the standards of the universal hardness test method since one would be motivated to avoid adverse effects to color properties as well as other non-pollution properties (p. 1, [0008]). Furthermore, it is well known in the art that protective layers protect. As a result, a modulus of elasticity that is "0.6 or more" merely indicates that the layer is sufficiently hard to protect from adverse effects.

Art Unit: 2871

11. As to claim 11, Yoshida discloses an optical element as recited above with a color filter of a light absorption type, however, the reference fails to specifically disclose the a color filter layer being disposed on the surface of the protective layer opposite to the surface of the LC layer.

Nishida discloses an optical element where the color filter (fig. 1, ref. 7) is disposed on the surface of the protective layer (fig. 1, ref. 8) opposite to the surface of the LC layer (fig. 1, ref. 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a color filter disposed on the surface of the protective layer opposite to the surface of the LC layer since one would be motivated to avoid adverse effects to color properties as well as other non-pollution properties (p. 1, [0008]).

### ***Response to Arguments***

12. Applicant's arguments filed June 30, 2005 have been fully considered but they are not persuasive.

Applicant's main argument is that the Yoshida reference does not teach an LC material that is solidified to maintain the molecular orientation. Applicant argues that because the molecular orientation of Yoshida must remain changeable and therefore does not maintain molecular orientation. However, nowhere in the claims does it state that LC material cannot be changeable. In fact, even as the LC material "changes" to a particular orientation based on applied voltage, and if held that that voltage, the LC material is "solidified so as to maintain a molecular orientation" (col. 8, lines 7-14).

Applicant further argues that that the protective plate of Yoshida is not sufficient to prevent the LC layer from being deformed by externally exerted forces. Applicant allegedly supports this by asserting that the front substrate can be a flexible substrate and that there is no need to protection of the LC layer because of its uniform thickness. However, the language of the claim is broad and any form of protection will undoubtedly having the hardness that is sufficient to prevent some type of "externally exerted force," even a substrate that is allegedly "flexible." Furthermore, nothing in the claims points out that the protection is being used on LC layers not of uniform thickness.

As a result, Applicant's amendments and arguments do not place the application in condition for allowance and rejection is proper.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw



DUNG T. NGUYEN  
PRIMARY EXAMINER